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Knight®

by Midmark

Operator's Manual For the ESCORT MODEL "S" Dental Unit Handpiece Delivery System

Knight®

by Midmark

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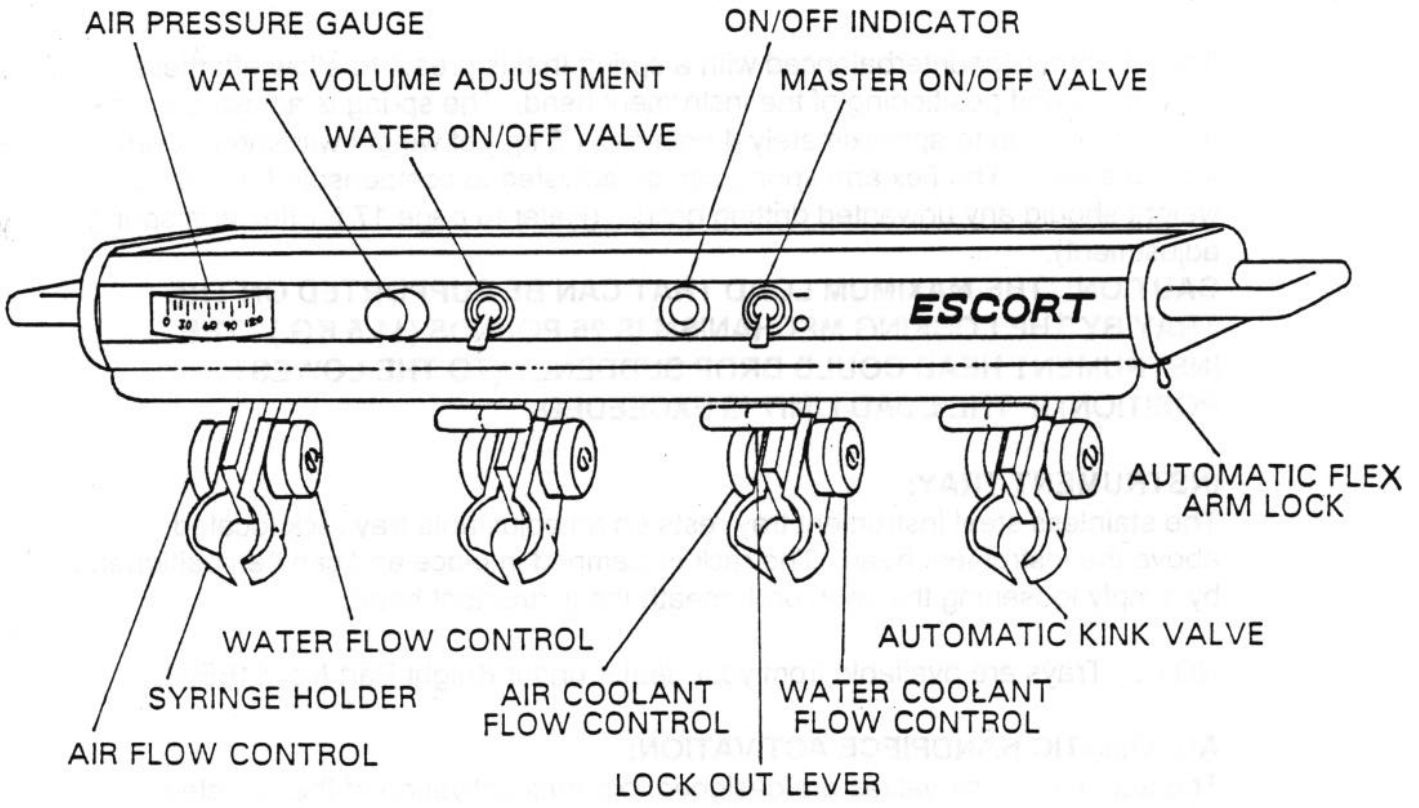
INTRODUCTION

The following handbook provides detailed information on the operation, adjustments, and maintenance on the Escort Dental Unit Handpiece Delivery System. Carefully read the handbook and save it for future reference.

NOTE ON OPTIONAL EQUIPMENT AND ACCESSORIES

We have attempted to consolidate most of the options and accessories into this handbook for your convenience. Since your Escort Unit is custom equipped, some sections of this book will not apply. However, if you are interested in any of these options and accessories, please call your Knight Equipment Dealer.

DANGER: POSSIBLE EXPLOSION HAZARD - DO NOT USE THIS EQUIPMENT IN THE PRESENCE OF FLAMMABLE ANESTHETICS.



OPERATION

MASTER ON/OFF VALVE:
The Master valve activates the air and water services to the Escort Unit. The visual indicator turns red when the unit is operational.

AUTOMATIC FLEX ARM LOCK:
The Escort flex arm is equipped with an automatic locking mechanism that will prevent downward movement of the instrument head and flex arm. The locking mechanism can be released by activating an air valve located on the right side of the instrument head.
TO RAISE THE INSTRUMENT HEAD: Simply raise the instrument head to the desired height.
TO LOWER THE INSTRUMENT HEAD: Switch the valve lever to release position, slightly pick-up on Instrument Head to "Take Control" and adjust the instrument head to the desired height.
TO LOCK THE FLEX ARM AT THE DESIRED HEIGHT: Switch the valve lever to the lock position to prevent downward movement of the instrument head and flex arm.

The flex arm is counterbalanced with a spring that is preset to allow effortless movement and positioning of the instrument head. The spring is adjusted so the tray can hold up to approximately 4 pounds (1.8 kg.) of weight with the flex arm lock released. The flex arm spring can be adjusted to compensate for wear or weight should any unwanted drifting occur. (Refer to page 17 for flex arm spring adjustment).

CAUTION: THE MAXIMUM LOAD THAT CAN BE SUPPORTED ON THE TRAY BY THE LOCKING MECHANISM IS 25 POUNDS (11.5 KG.). THE INSTRUMENT HEAD COULD DROP SUDDENLY (TO THE LOWEST POSITION) IF THE LOAD LIMIT IS EXCEEDED.

INSTRUMENT TRAY:

The stainless steel instrument tray rests on an adjustable tray rack located above the instrument head. The rack is clamped in place and can be positioned by simply loosening the knob underneath the instrument head.

NOTE: Trays are available from your dealer under Knight Part No. 116599.

AUTOMATIC HANDPIECE ACTIVATION:

The automatic Kink valves are designed to permit activation of the selected handpiece when it is removed from its holder. Drive air will be delivered to the withdrawn handpiece as the foot control is depressed.

LOCK OUT LEVERS:

Each handpiece holder has a lock out lever to prevent handpiece activation even though the handpiece has been removed from its holder. This feature allows an assistant to change a bur, clean, or lubricate one handpiece while another handpiece is being operated.

STANDARD FOOT CONTROL:

The disc-type foot control operates the selected handpiece at varying speeds depending upon the foot pressure applied to the disc.

DELUXE FOOT CONTROL:

Units equipped with the deluxe foot control offer independent chip air and water spray control in addition to regulating the speed of the handpiece. Depressing the chip air button will provide a steady stream of air through the handpiece spray tube (without the bur rotating). Positioning the C.W. selector toggle allows coolant water for wet cutting to be selected by the motion of the foot. Applying foot pressure to the disc will operate the selected handpiece and, if turned on, the water spray.

IMPORTANT: THE WATER VALVE ON THE FRONT OF THE INSTRUMENT HEAD MUST BE POSITIONED TO "ON" FOR THE WATER SPRAY BUTTON ON THE FOOT CONTROL TO FUNCTION.

AIR PRESSURE GAUGE:
As the foot control is depressed, the drive air pressure to the handpiece being operated is indicated on the gauge.

WATER ON/OFF VALVE:
Water for coolant spray is provided to the handpiece when the water valve is switched to "On" and the foot control is depressed (wet cutting).
When the valve is in the "Off" position, water will not be delivered to any handpiece.

WATER VOLUME ADJUSTMENT:
Water volume delivered to the selected handpiece can be adjusted. Turn the water volume adjustment knob **counterclockwise** to increase (+) water flow; **clockwise** to decrease (-).
IMPORTANT: The water flow can be adjusted differently for each individual handpiece. See page 7 for individual handpiece water flow adjustment.

3-WAY SYRINGE:
The syringe can deliver air, water, or a fine water spray to dry, wash, or irrigate any area of the oral cavity. The tip on the syringe rotates 360 degrees for accessibility, and is removable for autoclaving without the use of tools.
TO OPERATE THE SYRINGE: Depress the button on the left for water, the button on the right for air. For a fine mist, depress both buttons at once.

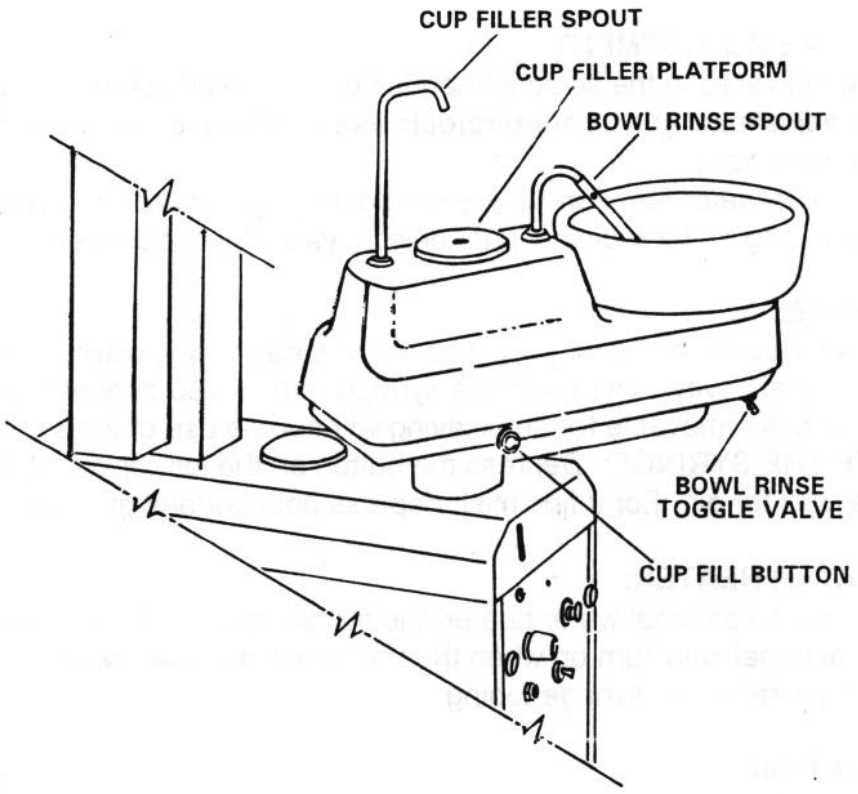
SYRINGE WATER HEATER:
If the syringe has an optional water heater, the transformer (in the Assistant's Console) will automatically turn on when the unit is activated and warm the water (via the heating wire) in the syringe tubing.

TIP INSTALLATION:
Some syringe models may require tools for syringe tip insertion or replacement. Refer to instructions packaged with syringe for insertion of syringe tip and replacement.
Note: Make sure that the syringe tip is fully inserted and locked in place before using syringe. Test by pulling lightly on syringe tip.
Replacement syringe tips can be ordered under **Knight Part Number 120514.**

EASY CLEAN CUSPIDOR

OPERATION

Your Easy Clean Cuspidor is designed with a manually operated cup filler and ON/OFF toggle valve for bowl rinse.



Cuspidor Controls

1. **CUP FILL BUTTON** allows water to flow into the cup while the button is pressed.

   Cup Fill Buttons are located on both sides of the cuspidor body. Either or both buttons can be used.

2. **BOWL RINSE TOGGLE VALVE** provides rinse water for the cuspidor bowl when turned "ON".

   Caution: Do Not block the vent hole in the cuspidor bowl rinse spout as it may cause contamination of water supply.

Some Easy Clean Cuspidors have factory installed options, such as Automatic Cup filler or Automatic Bowl Rinse.

1. The **AUTOMATIC CUP FILLER** is operated by a single touch of one of the cup fill buttons located on both sides of the cuspidor body.

2. The **AUTOMATIC BOWL RINSE** is operated by a single touch of the bowl rinse button located on the bottom of the cuspidor body near the cuspidor bowl.

CLEANING THE CUSPIDOR

You can remove the cup filler spout, bowl flush spout, cupfiller platform, gold trap, bowl and cover for cleaning.
To remove the glass bowl: rotate it slightly while lifting up.

NOTE: DO NOT USE LUBRICANTS ON THE O-RINGS FOR THE CUSPIDOR BOWL AS THEY MAY CAUSE THE BOWL TO SLIP OUT OF THE HOLDER. ONLY WATER SHOULD BE USED ON THE CUSPIDOR O-RINGS TO SEAT THE BOWL.

Surface areas should be wiped regularly with a soft cloth.

IMPORTANT: Avoid using abrasive cleaning products that could scratch or dull plastic surfaces. Detergent soaps used on plastic should not contain solvents or ammonia.

The disinfectant/cleaner products that we have tested and recommend for our plastic and painted items are as follows:

1. Kodak Cin Asept Foaming Disinfectant cleaner
   by Eastman Kodak Co., Rochester, NY

2. Cavicide
   Distributed by E & D Dental Products Inc., Westfield, NJ

CAUTION:

Avoid using agents containing Phenol water and/or Phenol alcohol.
These may cause damage to upholstery/plastic surfaces.

TESTING AND ADJUSTING THE CUSPIDOR

The water flow from the cup filler spout and bowl rinse spout are factory pre-set to prevent splashing. However, water conditions in your area may require you to adjust these for proper flow.

Note: Water pressure to the main air and water pilot valve (in the Junction Box) should be in the range of 30-50 PSI for correct cuspidor operation. A suitable pressure reducing valve is essential if the pressure exceeds the recommended pressure range.

1. Remove the cup filler drain platform, spouts, cuspidor bowl, and the cuspidor cover to adjust water flow.

   Note: When removing and/or installing spouts, cup platform and cuspidor bowl, twist while removing or installing so as not to damage "O" rings. Water should be used as a wetting agent to make "O" rings seat easier.

2. Install the cup filler spout, and cup filler drain platform. Direct spout to center of cupfiller platform.

3. Install the cuspidor bowl by pressing down and slightly rotating the cuspidor bowl until at seats. Lubricate the O-Rings with water ONLY if necessary.

4. Install the bowl rinse spout. Position so water is directed toward outside of bowl.

5. Turn on the water supply.

6. Turn on the master water valve on the front of the Escort Unit for the cuspidor to operate.

   When in the "OFF" position, the water supply is shut off at the main air and water valves located in the "J" box. This prevents possible water damage in case a water line should break on unattended equipment.

7. Check for leaks and proper operation.

8. The water flow from the cup filler and bowl rinse can be adjusted using the metering clamps on the water supply tubings.

   With cuspidor cover removed place a plastic cup on the cup filler drain platform. Depress the cup filler button and turn the metering clamp counterclockwise to increase flow (+); Clockwise to decrease (-).

9. To adjust bowl rinse flow, turn the bowl rinse toggle valve "ON" and turn the metering clamp counterclockwise to increase (+); Clockwise to decrease (-).

10. Shut off the master valve on the front of the Escort Unit after making flow adjustments.

11. Remove the cup filler spout, bowl rinse spout, cup filler drain platform, and the cuspidor bowl.

12. Place and position the cuspidor cover over cuspidor body. Install the cup filler spout, bowl rinse spout, cup filler drain platform, and cuspidor bowl. Ref: Step #3.

AUTOMATIC CUP FILLER ADJUSTMENT

The water volume from the Automatic Cup Filler is factory pre-set to prevent splashing.

The **AUTOMATIC CUP FILLER** is factory pre-set to fill a light weight cup with (3) ounces of water. To adjust the amount of water to the cup, turn the white threaded bushing on the Shut Off Mechanism clockwise to decrease the amount of water and counterclockwise to increase the amount.

Note: Press down on the Cup Platform to stop the flow of water anytime, or shut off the master on/off valve on unit.

The **SHUT OFF MECHANISM** operates by sensing the weight of the water in the cup. When the cup reaches a pre-determined weight, the cup platform shaft pushes down on the bleed valve and causes the water flow to the cup to shut off by venting the air which operates the main water control valve in the Assistant's Console.

The **AUTOMATIC CUP FILLER** has a time shut off control (which is a backup to the Shut Off Mechanism) to ensure that flooding will not occur in the event that the Automatic Cup Filler is operated without a cup on the platform. It is factory adjusted to dispense approx. 4 oz. of water. The system has a maximum time function during which the water can run (factory set for approx. 4 oz. of water). This prevents excessive amounts of uncontrolled water from being dispensed which could cause flooding.

AUTOMATIC BOWL RINSE TIME ADJUSTMENT

The **AUTOMATIC BOWL RINSE TIME** is factory pre-set at 20 to 30 seconds. A momentary touch of the bowl rinse button provides a flow of water for rinsing the cuspidor bowl. After a pre-set period of time, the water flow automatically shuts off.

To adjust the time shut off control, turn the knob clockwise to increase the bowl rinse time, or counterclockwise to decrease the rinse bowl time.

The **TIME SHUT OFF CONTROL** located in the Assistant's Console controls the air "bleed" which operates the main water control valve.

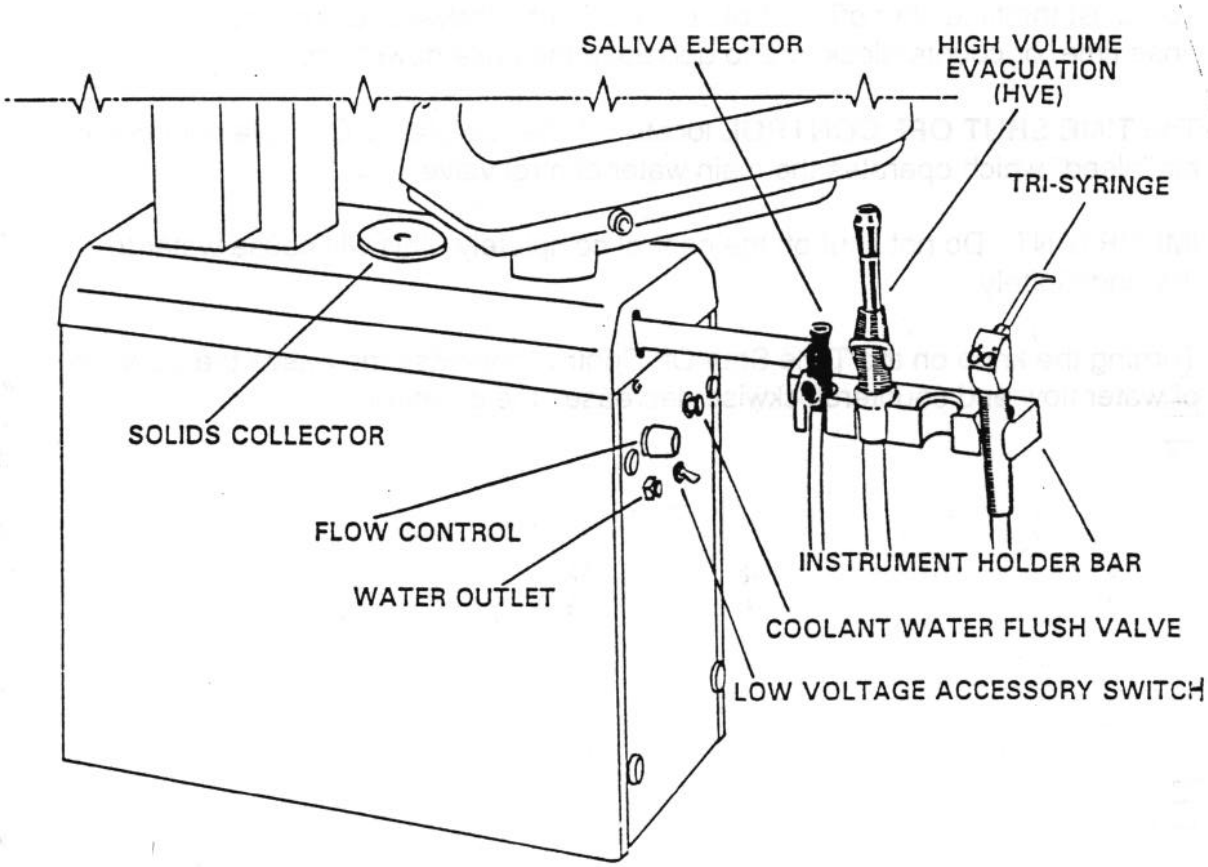
IMPORTANT: Do not shut off the control completely: this will cause water to flow indefinitely.

Turning the knob on the Time Shut Off Control clockwise increases the duration of water flow and counterclockwise decreases the duration.

ASSISTANTS CONSOLE

OPERATION

The Assistants Console is part of an Escort Delivery System. It is connected to the regulated water and air valve in the "J" box. Standard instrumentation: Syringe, Saliva ejector, HVE handpiece and Solids Collector.



1. **FLOW CONTROL** - Adjusts the flow of water from the water outlet. Turning the control clockwise will decrease water flow (-), counterclockwise will increase flow(+) to the water outlet.

2. **COOLANT WATER FLUSH VALVE** - The coolant water flush system can be used with or without the handpiece attached to the tubing. Remove the handpiece or tubing from holder and hold over the cuspidor bowl. Water flows as long as you hold the coolant water flush valve on. Hold the handpiece or tubing so that the water is directed away from you and into the direction of the cuspidor bowl.

3. **WATER OUTLET** - Provides water for hydrocolloid tubing or other accessories.

4. **LOW VOLTAGE ACCESSORY SWITCH** - The accessory switch can be used to activate any low voltage accessory. Such as the central vacuum pump. The accessory switch is not factory wired to any equipment (wires terminate in "J" box).
   CAUTION: The low voltage accessory switch is for use with Class 2 circuits only.

5. **WATER DRIVEN SALIVA EJECTOR VALVE** (Optional Accessory) - The water venturi system is located in the Assistant's Console.

6. **REMOVABLE INSTRUMENT HOLDER BAR:** The instrument holder bar can hold up to three vacuum hoses (two HVE hoses and one saliva ejector hose) and a syringe. The holder bar can be removed from the slot in the assistant's console and positioned in the headrest of any Knight Mfg. Co. chair having an instrument holder bar receptacle. The holder bar can be inserted and adjusted into one of three positions in the receptacle. A universal holder receptacle is available under Part No. 151680 for mounting to carts or cabinets. **The Instrument Holder Assembly is autoclavable.**

7. **ACCESSORY OUTLETS:** Accessory Outlets - The Assistant's Console is equipped with (4) grounded medical grade outlets for 110 Volt (220-240 volt international) accessories. The Junction Box also has an outlet.

   Note: Total combined accessories to be plugged in must not exceed 15 Amps (110 volt) or 7.5 Amps (220 - 240 volt).

8. **HIGH VOLUME EVACUATION (HVE)** - The suction for high volume evacuation is supplied by a separate central vacuum pump system. The vacuum flow is controlled by a valve at the end of the HVE hose. The HVE valve and handle can be autoclaved, just pull off from end of hose.

   Note: For convenience, the vacuum pump can be connected to the low voltage electrical accessory switch.

   IMPORTANT: On central vacuum saliva ejector systems it is essential that the valve be closed completely when not in use. If not, suction during high volume evacuation may be less than normal.

9. **SOLIDS COLLECTOR** - The high volume evacuation hose connects to a solids collector located in the assistant's console. Large particles that are pulled through the evacuation hose are trapped in the solids collector. The cap can be removed to expose the basket trap for cleaning. Replacement basket (traps) can be ordered under Knight Part Number 151894.

   IMPORTANT: The vacuum pump should be turned off before removing the solids collector cap.

10. **SALIVA EJECTOR** - The saliva ejector is connected to the central vacuum system (the same vacuum pump as HVE) thru the solids collector.

    Inside the saliva ejector hose tip is a fine mesh strainer for trapping tooth particles and other debris that might otherwise clog the hose. A valve on the hose tip is used to adjust the suction.

    Note: The saliva ejector hose is designed to accept standard disposable tips. Some models may be equipped with snap off autoclavable tip and valve assemblies.

    IMPORTANT: On central vacuum saliva ejector systems, it is essential that the valve be closed completely when not in use. If not, suction during high volume evacuation may be less than normal.

11. **HANDPIECE COOLANT WATER FLUSH** - The coolant water flush system valve is located on the Assistant's Console. The coolant water flush system can be used with or without the handpiece attached to the tubing. Remove the handpiece or tubing from "kink" valve holder and hold over the Cuspidor bowl. Water flows as long as you hold the coolant water flush valve on. Hold the handpiece or tubing so that the water is directed away from you and into the Cuspidor Bowl or sink.

    Flush the handpiece or tubing for about 10 seconds before installing freshly autoclaved handpiece and for 30 seconds at the start of each day to flush away contaminants.

TRI-SYRINGE AIR AND WATER ADJUSTMENT

Remove side cover on Assistants Console by loosing (4) thumb screws. The Assistant's Syringe flow is controlled by the metering clamps on tubings inside the Assistant's Console.
To adjust either flow: Depress the appropriate button on the syringe head and turn the metering clamp. **Counterclockwise to increase** flow; **Clockwise to decrease**. Assemble side cover to Assistants Console using (4) thumb screws.

CLEANiNG ASSISTANTS CONSOLE

CLEANING THE UNIT:
Surface areas should be wiped regularly with a soft cloth. Occasionally, wash the unit surfaces with soap and water (finish may be preserved with an appliance-type cleaner and wax.

Important: Avoid using abrasive cleaning products that could scratch or dull plastic surfaces. Detergent soaps used on plastic should not contain solvents or ammonia.

The disinfectant/cleaner products that we have tested and recommend for our plastic and painted items are as follows:

1. Kodak Cin Asept Foaming Disinfectant cleaner
   by Eastman Kodak Co., Rochester, NY

2. Cavicide
   Distributed by E & D Dental Products Inc., Westfield, NJ

CAUTION:
Avoid using agents containing Phenol water and/or Phenol alcohol.
These may cause damage to upholstery/plastic surfaces.

CLEANING HANDPIECE, SYRINGE AND VACUUM HOSES:
The hoses can be washed with soap and water and can also be cleaned with most surgical scrub solutions.

MAINTAINING THE VACUUM SYSTEM:
All vacuum lines (the HVE and saliva ejector) should be flushed as often as necessary with an antiseptic solution. Draw 3 to 4 ounces of solution through each hose. Twice each week flush the hoses with a quart of soapy water.

CLEANING SOLIDS COLLECTORS:

The solids collector should be cleaned daily to avoid loss of suction.

To clean the solids collector: Turn off the vacuum supply. Lift up the cap on top of the solids collector to expose the basket strainer. Empty the basket strainer and scrub it with a brush. When clean, return the basket to the collector and replace the cap.

NOTE: To help simplify basket removal, wet the inside of the solids collector with the syringe after removing the cover. The water will soften the amalgam for easier basket removal. The replacement basket strainer can be ordered under **Knight Part Number 151894.**

CLEANING SALIVA EJECTOR TIP STRAINER:

The saliva ejector hose tip contains a fine mesh strainer. Unscrew the rubber tip and remove and wash the strainer.

Note: The replacement strainers can be ordered under **Knight Part Number G673025.**

Note: The following are autoclavable: HVE handle and valve assembly, Syringe Tip, Instrument Holder, and some models of Saliva Ejector valves and tips.

ADJUSTMENTS

DEACTIVATING THE UNIT:
TO COMPLETELY SHUT DOWN THE UNIT FOR SERVICING: Switch the master valve on the front of the instrument head to "off." Turn off the main shut-off valves inside the junction box. Turn off the electrical service switch on the outside of the Junction Box, and turn off power at circuit breaker.

ADJUSTING INCOMING AIR AND WATER PRESSURE:
An air and a water regulator are provided in the junction box. These regulators control the air and water pressure that is supplied to the Escort unit and its accessories. Normally, these regulators are preset at the factory to allow **80 p.s.i. (5.4 atm.) air and 40 p.s.i. (2.7 atm.) water.**

REMOVING THE TOP COVER FROM INSTRUMENT HEAD:
Remove the top cover from the instrument head by pushing it upward from underneath. (The cover will easily snap back into place.)
NOTE: On units with an instrument tray above the top cover, remove the stainless steel tray. Loosen or remove the tray rack to take off the top cover.

ADJUSTING THE DRIVE AIR PRESSURE:
Drive air is adjusted using the drive air flow adjustment wheel located at the top of the kink valve.
TO ADJUST THE DRIVE AIR ON A PARTICULAR HANDPIECE: Activate the handpiece and depress the foot control. Turn the flow adjustment wheel (for the large diameter **clear** tubing) **clockwise** to increase drive air pressure; **counter-clockwise** to decrease. NOTE: Handpiece must be in place; watch gage on front panel when making adjustments.

INDIVIDUAL HANDPIECE WATER FLOW ADJUSTMENT:
The water coolant spray for each handpiece can be adjusted using the water flow adjustment wheel on its kink valve.
TO ADJUST THE FLOW OF WATER COOLANT FOR A PARTICULAR HANDPIECE: Switch the water control valve on the front of the instrument head to "on." Make sure the water volume adjustment next to the on-off valve is opened (see note 1). Activate the handpiece and depress the foot control (see note 2). Turn the flow adjustment wheel (for small diameter **blue** tubing) **clockwise** to increase water flow; **counterclockwise** to decrease (see note 3).

Note 1: The water flow adjustment wheel for each handpiece is normally adjusted with the water volume control on the front of the instrument head completely opened (**fully counterclockwise**). Adjusting the individual handpiece water flow in this manner allows the option of decreasing the water

flow anytime using the easy-to-reach water volume control on the front of the unit.

Note 2: If the unit has a deluxe foot control, position the water lever on the foot control before depressing the disc.

Note 3: If it is elected to completely shut off the coolant water to a particular handpiece, simply turn the adjustment wheel **counterclockwise** until the water spray stops. This may be desirable on a low speed handpiece where water spray is not utilized.

ADJUSTING COOLANT AIR (SPRAY ASSIST):

Coolant air is delivered whenever the handpiece is operated. The coolant air is tapped from the drive air supply tubing. When the water control valve is turned on and the handpiece is used for wet cutting, the coolant air mixes with the water and provides a fine spray mist. This feature is called "spray assist." Therefore, the coolant air is adjusted for an effective water spray mist pattern rather than for the cooling effect of the air.

To adjust the coolant air (spray assist): Switch the water control valve on the front of the instrument head to "On." Make sure the water volume adjustment is set for the desired water flow. Activate the handpiece and depress the foot control. Turn the flow adjustment wheel (for the small diameter **orange** tubing) **clockwise** to increase air flow; **counterclockwise** to decrease.

Note 1: If the unit is equipped with a deluxe foot control, position the water lever button before depressing the disc.

Note 2: If the handpiece being used has an air bleed system for spray assist, the coolant air adjustment will not be effective.

ADJUSTING SYRINGE:

The syringe air and water flows can be adjusted using the flow adjustment wheel for air or water on the syringe holder.

To adjust either flow: Depress the appropriate button on the syringe head and turn the flow adjustment wheel **clockwise** to increase flow; **counterclockwise** to decrease.

FLEX ARM SPRING ADJUSTMENT:

To gain access to the flex arm locking mechanism and spring: Remove the end cap screw and the end cap from the back end of the flex arm. Carefully slide the painted cover off the arm while holding the underside trim of the plastic strip. (The plastic trim will slide out from the cover as it is removed.)

To adjust the flex arm spring: Turn the adjustment hex nut located on the threaded portion of the spring shaft. Compress the spring to increase the loading capacity of the instrument head and arms; turn the nut away from the spring to decrease the loading capacity. NOTE: After making adjustments, release the arm lock and check co-balance thru out full range of arm articulation.

WARNING: Do not disassemble the flex arm mechanism. The flex arm spring is under tension and could cause injury if handled improperly. Refer servicing to qualified personnel or return the complete flex arm to the factory for repairs.

MAINTENANCE

CLEANING THE UNIT:
Surface areas should be wiped regularly with a soft cloth. Occasionally, wash the unit surfaces with soap and water (finish may be preserved with an appliance-type cleaner and wax.).

Important: Avoid using abrasive cleaning products that could scratch or dull plastic surfaces. Detergent soaps used on plastic should not contain solvents or ammonia.

The disinfectant/cleaner products that we have tested and recommend for our plastic and painted items are as follows:

1. Kodak Cin Asept Foaming Disinfectant cleaner
   by Eastman Kodak Co., Rochester, NY

2. Cavicide
   Distributed by E & D Dental Products Inc., Westfield, NJ

CLEANING HANDPIECE, SYRINGE, AND VACUUM HOSES:
The hoses can be washed with soap and water.

MAINTAINING THE VACUUM SYSTEM:
All vacuum lines (the HVE and saliva ejector) should be flushed as often as necessary with an antiseptic solution. Draw 3 to 4 ounces of solution through each hose. Twice each week, flush the hoses with a quart of soapy water.

LUBRICATING FLEX ARM:
The flex arm should be lubricated with household machine oil about once every two years.
To lubricate flex arm: Remove the screw and end cap from the back end of the flex arm. Carefully slide the cover off the open end while holding the underside of the trim strip. The trim strip will slide out of the cover as it is removed. Apply two drops of oil to each of the six pivot pins.

The flex arm should also be lubricated around the shaft inside the spring (once every two years). Make sure all excess oil is wiped up before reassembling the flex arm. (Be sure the trim strip slides back into the cover when putting the flex arm back together.)

SERVICING THE AIR AND WATER FILTERS:

It is recommended that the air and water filters be cleaned every three months. (If the filters need replacement, the complete valve block should be overhauled. Order Pilot Valve Block Service Kit under **Knight Part No. 149689**).

To service the filters: Remove the cover from the junction box. Shut off the air and water supply valves. Purge line pressure by activating the master on-off valve and depressing the syringe buttons. With a screwdriver, remove the cap and gasket from the side of the valve block and pull out the filter elements. Replace filter elements.

IMPORTANT: Do not interchange the air and water filter water elements. The air filter has the finer element.

REPLACEMENT PARTS
CUSPIDOR

118176.....Cuspidor Bowl

118179.....O-Rings (2) required (Bowl)

150671.....Gold Trap Kit

150725.....Gold Trap Screen Kit

151642.....Cup Filler Spout (without O-Rings)

151849-1.....Bowl Rinse Spout (without O-Rings)

151795.....Cup Platform

P11648.....O-Rings for Spouts (2) required

120159.....Top Cover

120415.....Whisker Valve

118183.....Needle Valve

118940.....Control Valve

149689.....Valve Block O-Ring Kit

IMPORTANT

For more information on field installed options and accessories, please call your **KNIGHT** Equipment Dealer.

PARTS AND ACCESSORIES
ASSISTANT'S CONSOLE

141974.....Male Quick-Disconnect
(For use with all auxiliary Water Outlet Connections)

152055.....Syringe Button Cartridge Kit

120514.....Replacement Syringe Nozzle (Spout) only

151894.....Basket Trap for Solids (package of 6)

G67302.....Fine Mesh Strainer
(For Saliva Ejector Hose Tip) (package of 6)

149530.....Instrument Holder (Complete)

117855.....Instrument Holder Only

151680.....Universal Receptacle

IMPORTANT

For more information on field installed options and accessories, please call your **KNIGHT** Equipment Dealer.

PARTS AND ACCESSORIES

KNIGHT
PART NO.

116599.....Additional Instrument Tray

152055.....Syringe Button Cartridge Kit

149650.....Syringe Holder (Handle Mounted)

117348.....Water Filter Element

117347.....Air Filter Element

149689.....Pilot Valve Block Service Kit
(O-Rings only)

151113.....Pilot Valve Block Service Kit
(Includes 2 Valve Inserts)

151680.....Universal Receptacle

IMPORTANT

For more information on field installed options and accessories, please call your **KNIGHT** Equipment Dealer.

WARRANTY

Knight warrants its products against defects in workmanship or material for two years from the time of purchase (except for the kink valves which have a warranty period of ten years). Knight's sole obligation under the warranty is to provide parts for the repair or at its option, to provide the replacement product (excluding labor). The warranty does not cover damage resulting from improper installation or maintenance or misuse.

No Other Warranties or Guaranties, Expressed or Implied.

We are constantly striving to improve our products. Therefore, we reserve the right to make changes in product and price without further notice, nor are we obligated to modify previously manufactured items.